

Remarks:

Claims 1-9, 18-20, 26 and 34 have been canceled without prejudice. Claims 10-17, 21-25, 27-33 and 35-37 are pending in the present application.

The Examiner has indicated that claims 10-12, 21, 22, 27, 28 and 35 would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. Applicant has made suitable amendments to such claims pursuant to such instruction.

Claims 13, 14, 15, 16 and 17 have been re-written to depend on now allowable claim 10. Therefore, these claims are allowable at least for the reasons claim 10 is allowable and also because additional subject matter is recited.

Claims 23, 24 and 25 have been re-written to depend on now allowable claim 21. Therefore, these claims are allowable at least for the reasons claim 21 is allowable and also because additional subject matter is recited.

Claims 29, 30, 32, 33 and 34 have been re-written to depend on now allowable claim 27.. Therefore, these claims are allowable at least for the reasons claim 27 is allowable and also because additional subject matter is recited.

Claim 31 is now also allowable, since it depends from allowable claim 30 which in turn is dependent on allowable claim 28.

Claims 36 and 37 have been re-written to depend on now allowable claim 35. Therefore, these claims are allowable at least for the reasons claim 35 is allowable and also because additional subject matter is recited.

Certain other minor changes in the form of corrections have been made to some of the claims. In particular, claims 10, 21 and 28 have been amended to delete the word "only," from the limitation concerning the cancellation of the memory access, since as described in the specification

there may be other reasons for cancelling such access. See e.g., p. 15, ll. 4-6 and ll. 23-26; p. 18, ll. 28-30 and p.20:1-5. The amendment therefore merely harmonizes the claim language with the disclosure and the language of already allowed claim 35.

Similarly, claims 21 and 22 have been amended to delete the language mistakenly reciting that the page cache 307 stores *page offset* information. See original claim 18, p.25, l. 16. The present amendment merely makes the claim language consistent with the language of the specification (p. 17, ll. 11-21) and drawings (see page cache 307 shown in Figs. 3B - 3C). As such, it is believed that this corrective amendment also does not affect the allowability of such claims.

Support for the additional amendments to claims 14 and 29 can be found at p.11, ll.6-7 and p. 11, ll. 27 + of the specification which discusses the use of a cache or multiple registers to store multiple segment entries 290.

The only other claims in this case, namely, claims 1-9, 18-20, 26 and 34 have been canceled without prejudice. Hence, applicant believes this case is now allowable.

The references provided in the supplemental IDS only recently came to the attention of the applicants, and applicants respectfully request that they be considered in connection with the present application. These references including the following: (1) EP 0-668-565 (Kranich); (2) U.S. Patent No. 4,400,774 (Toy); and (3) U.S. Patent No. 5,165,028 (Zulian). The present claims distinguish over these references for one or more reasons set forth below.

First, the Kranich reference does not make any mention of a combination of segmentation and paging based address translation, or a virtual-linear-physical conversion of any kind. In fact, it seems that a different type of address translation is described because at column 9, ll. 55 - column 10, ll. 35 it discusses a virtual address in the form of a virtual "page" system, which is not a "virtual address" of the segment identifier plus segment offset variety disclosed and claimed in

the present invention. See present disclosure at p. 2, ll. 4-15 (discussing segmentation). In Kranich the virtual address is disclosed to already contain the page offset (see c.10, ll. 15-18) and therefore no segmentation (virtual to linear address conversion) operation is ever disclosed to occur. Hence there is no “segment,” no “segment identifier,” no “segmentation” unit or circuit, no “linear address,” etc. etc., as those terms are used in the claims. Moreover, as indicated in the attached supplemental IDS, while Kranich claims a U.S. priority date prior to the present application (and may conceivably become 102(e) art at some point), the above European application was not published until after the filing date of the present invention, and therefore it is not believed to be prior art to the present application at this time. Since its status cannot be confirmed at this time, however, applicant requests that it be considered in the present application.

The Toy reference seems deficient for similar reasons. The Zulian reference also makes mention of a logical (virtual) address that has an offset field that is the same as the physical address, see column 3, ll. 55-59, (like the Kranich virtual paging), and this disclosure is similarly different from the virtual addresses used in the present invention. The Toy reference construction of the virtual address also does not result in a virtual - linear - physical address conversion of the type generally described in the present disclosure.

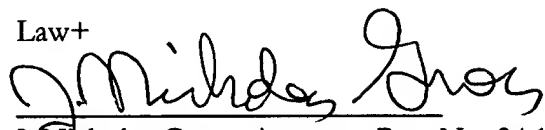
In short, the present invention solves the timing bottleneck created by repetitive virtual-linear-physical address calculations in segmentation plus optional paging address translation systems (such as shown in Crawford '836) by using a tentative memory reference and this concept is neither disclosed nor suggested in any of the above references. Accordingly, the present claims are distinguishable over these newly submitted references as well, and should be allowable.

No additional filing fees are believed to be necessary due to the fact that the number of claims in question has been reduced from 37 to 22.

Respectfully submitted,

Law+

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I hereby certify that the foregoing is being deposited with the U.S. Postal Service, postage prepaid, to the Commissioner of Patents and Trademarks, this 4th day of August, 1997.